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# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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January 14, 1992

Mr. E. B. King  
Jumbo Mining Company  
6305 Fern Spring Cove  
Austin, Texas 78730

Dear Mr. King:

Re: Second Technical Review, Permit Amendments, Mizpah Pit Development & New Heap Leach Pad Facility, Drum Mine, M/027/007, Millard County, Utah

The Division has completed its review of Jumbo Mining Company's (JMC) latest permitting documents (received October 8, 1991), submitted in response to technical deficiencies noted in JMC's permit amendment applications for the new Mizpah Pit and Heap Leach Pad Facility. The majority of our technical concerns have been adequately addressed. However, a number of concerns remain which must be resolved before we can approve of these amendments. JMC will need to provide supplemental information to address the following deficiencies:

## MIZPAH PIT PROPOSAL:

### R613-004-113 Reclamation Surety - AAG

JMC estimated the tops and sides of the waste dumps at 10.28 acres. Final reclamation called for all dump slopes to be regraded to 3:1. The Division took the 10.28 acres to represent the area associated with the dumps *prior to* final reclamation. JMC's latest response implies that the 10.28 acres represents the dump configuration at 3:1. This implies 8,292 cubic yards of topsoil material will be needed to cover the dumps with 6 inches of material. A reclamation cost of \$5,639 is implied which will require an adjustment to the Division's reclamation estimate.

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## **HEAP LEACH PAD PROPOSAL:**

### **R613-004-106 Operation Plan - HWS**

#### **106.6 - Plan for protecting and storing existing soils**

Please identify the location(s) and total volume of topsoil materials to be stored on the mine site for final reclamation.

### **R613-004-111 - Reclamation Practices - HWS**

#### **111.12 - Topsoil Redistribution**

Please explain in more detail the redistribution of topsoil materials on the reclaimed areas, and indicate whether or not soil amendments will be used. If no soil amendments will be used the operator must justify this by providing the Division with the appropriate soil analyses. The Division recommends that a hay mulch (2,000 lb/ac) and an ammonium-phosphate fertilizer (100 lb/ac) be applied at final reclamation, unless soil analyses indicate otherwise.

#### **The Trench Area - AAG**

The DOGM submission describes 0.33 acres of disturbance associated with the trench and piles of excavated materials. A letter to Mr. Rody Cox describes the trench as disturbing 0.165 acres. JMC should clarify this discrepancy.

#### **Reclamation of the New Heap - AAG**

What will happen to the leachate collection and leak detection structures upon final reclamation. No mention of their final disposition was given.

What will be the final disposition of the liner? Will it be left intact or punctured? The response says "Topsoiling ... will provide for a partial capping... ." The operative word is "partial". Partial capping may not be acceptable. Where will this topsoil material come from?

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Representative analyses of the neutralized heap leach material will be needed for the purpose of evaluating suitability as a plant growth medium and the appropriate revegetation methods (i.e. plant species, fertilization, etc.).

In the reclamation practices section of the plan, JMC indicates that topsoil will be applied to a uniform depth of 6 inches minimum. Will this be applied over the entire mine site? Where is this topsoil now? What is the volume on hand?

R613-004-113 Surety - AAG

The surety estimate provided by JMC does not include any costs for decommissioning and neutralization of the heap. These costs will need to be provided by JMC and included in the Division's surety estimate. JMC proposes intermittent rinsing of the heap with water to achieve the required effluent standards, but no time period is estimated.

Upon receipt of the requested surety information from JMC, the Division will prepare a revised surety estimate which combines the projected reclamation costs for both permit amendments.

**General Comments**

1. The operator has not responded to item #3, page 7, of the Division's July 17, 1991, review letter. To reiterate, the Division will not accept additional permit amendment applications which make reference to the approved plan without specific reference to the volume, section, page and date of the previous submittal/approval. A condition to final approval of these 2 permit amendments will require JMC's written acceptance and agreement to provide this Division with an updated, reformatted and consolidated mining and reclamation plan/permit application. The new application must include all of the permit revisions and amendments included under the approved Drum Mine Permit. The permit application should be formatted such that any future changes can be easily made and inserted as replacement pages to a specific section of the approved mining and reclamation plan, or appended as a new section.

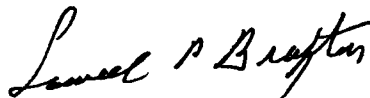
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Our July 17th letter established a tentative deadline of 6 months from the date of our final approval of the permit amendments, for submittal of the reformatted Drum Mine permit application. The Division is prepared to provide you with guidance and direction as may be required in assembling the revised application.

2. We have received copies of the technical review comments from the Bureau of Land Management (BLM) and the Utah State Department of Environmental Quality, Division of Water Quality (DWQ), regarding the proposed permit amendments. We will continue to coordinate our review with these agencies to the extent possible. This Division will accept the final heap leach design and monitoring requirements as determined by the DWQ and the BLM.

All of the outstanding concerns as outlined in this letter must be satisfied before the Division proceeds to grant its approval of these permit amendments. The Board of Oil, Gas and Mining and BLM will ultimately need to approve of the amount and form of revised reclamation surety. We appreciate your patience and cooperation in finalizing this permitting action. Please contact me, or D. Wayne Hedberg of my staff, should you have questions or concerns regarding the requirements contained in this letter.

Sincerely,



Lowell P. Braxton  
Associate Director, Mining

jb  
cc: Kiran Bhayani, DWQ  
Dave Hartshorn, JMC, Drum Mine  
Rex Rowley, BLM, House Range RA  
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